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10/594,053	09/25/2006	Akihiko Nishio	L9289.06205	6081

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EXAMINER

GHOWRWAL, OMAR J

ART UNIT	PAPER NUMBER
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2463

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,053	Applicant(s) NISHIO, AKIHIKO	
	Examiner OMAR GHOWRWAL	Art Unit 2463	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Remarks

1. This Office action is considered fully responsive to the amendment filed 5/18/10.
2. The rejection to claim 5 under U.S.C. 112 has been withdrawn because the claim has been amended accordingly.

Response to Arguments

3. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over by U.S. Publication No. 2004/0252670 A1 to *Rong et al.* ("*Rong*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*").

As to **claim 1**, *Rong* discloses a base station apparatus (para. 0027, figs. 1-2, BS 20) comprising:

a selection section that selects a mobile station to which a data channel is assigned (para. 0027, figs. 1-2, BS 20 transmits to MS 22, data channel F-PDCH), in accordance with both measured channel quality of a control channel for transmitting

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control information, that is modulated (para. 0030, message over control channel is demodulated by MS 22), and independently measured channel quality of the data channel (para. 0027, figs. 1-2, power margins of both data and control channels are known and are separate from each other, and both are used for transmitting data from BS 20 to the same MS as the previous transmission was from, i.e. MS 22);

and a transmitting section that performs radio transmission of data to a selected mobile station (para. 0027, figs. 1-2, BS 20 transmits to MS 22).

Rong does not expressly disclose transmitting control information, *which includes assignment information of a data channel or modulation and coding scheme (MCS) information.*

Li discloses control information includes a modulation scheme and recipient terminal for each HS-PDSCH (i.e. data channel) (para. 0039).

Rong and *Li* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the control information as disclosed by *Li* into the invention of *Rong*. The suggestion/motivation would have been to perform data demodulation in CDMA (*Li*, para. 0002).

As to **claim 12**, *Rong* discloses a data channel assignment method whereby a mobile station to which a data channel is assigned is selected (para. 0027, figs. 1-2, BS 20 transmits to MS 22, data channel F-PDCH) in accordance with both measured channel quality of a control channel for transmitting control information, that is

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modulated (para. 0030, message over control channel is demodulated by MS 22), and independently measured channel quality of the data channel (para. 0027, figs. 1-2, power margins of both data and control channels are known and are separate from each other, and both are used for transmitting data from BS 20 to the same MS as the previous transmission was from, i.e. MS 22).

Rong does not expressly disclose control information, *which includes assignment information of a data channel or modulation and coding scheme (MCS) information.*

Li discloses control information includes a modulation scheme and recipient terminal for each HS-PDSCH (i.e. data channel) (para. 0039).

Rong and *Li* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the control information as disclosed by *Li* into the invention of *Rong*. The suggestion/motivation would have been to perform data demodulation in CDMA (*Li*, para. 0002).

6. **Claims 2, 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2004/0252670 A1 to *Rong et al.* ("*Rong*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2003/0073409 A1 to *Nobukiyo et al.* ("*Nobukiyo*").

As to claim 2, *Rong and Li* does not expressly disclose the base station apparatus according to claim 1, wherein the selection section selects the mobile station for which the channel quality of the control channel is greater than or equal to a

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threshold value set according to a total number of mobile stations currently accommodated by the base station apparatus.

Nobukiyo discloses in paras. 0154-0159, figs. 21 and 22, a mobile station transmits quality information after setting channel with the base station. The mobile station transmits this information if it has a reception quality greater than or equal to threshold "P". Threshold "P" is set based on a value "N" corresponding to the number of mobile stations which report reception quality.

Rong, Li and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the threshold value and quality reporting as disclosed by *Nobukiyo* into the invention of *Rong and Li*. The suggestion/motivation would have been to extend battery life and improve high speed packet transmission service with low error ratio (*Nobukiyo*, paras. 0154-0159).

As to claim 6, *Rong and Li* discloses the base station apparatus according to claim 1, wherein the selection section selects the mobile station to which the data channel is assigned, in accordance with channel quality of a control channel (*Rong*, para. 0027, figs. 1-2, power margins of both data and control channels are known and are separate from each other, and both are used for transmitting data from BS 20 to the same MS as the previous transmission was from, i.e. MS 22).

Rong and Li does not expressly disclose in accordance with channel quality of an uplink control channel for transmitting an acknowledgement (ACK) or a negative acknowledgement (NACK).

Nobukiyo discloses UL HS-DPCCH transmits ACK/NAKs and quality information to the base station by the mobile station (para. 0005).

Rong, Li and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the UL HS-DPCCH quality information as disclosed by *Nobukiyo* into the invention of *Rong and Li*. The suggestion/motivation would have been to have a BS and MS suitable for use in a HSDPA system (*Nobukiyo*, para. 0002).

7. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2004/0252670 A1 to *Rong et al.* ("*Rong*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2004/0066754 A1 to *Hottinen et al.* ("*Hottinen*").

As to claim 3, *Rong and Li* do not expressly disclose the base station apparatus according to claim 1, wherein the selection section selects a number of mobile stations in high-to-low order of the channel quality of the control channel, and the number of selected mobile stations is set according to a total number of mobile stations currently accommodated by the base station apparatus.

Hottinen discloses channel information for mobile stations that are in simultaneous connection with a base station 2 is fed back to the base station 2 over a

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control channel. Furthermore, based upon this information, the channel allocator differentiates between poor and good signal quality. Based upon this, a good quality mobile station is given a channel connection, and a poor quality mobile station is not given a channel connection, but is instead allocated this at a later time (para. 0044-0046).

Rong, Li and *Hottinen* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the selection method as disclosed by *Hottinen* into the invention of *Rong* and *Li*. The suggestion/motivation would have been to maximize throughput or transmit efficiency (*Hottinen*, para. 0044-0046).

8. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2004/0252670 A1 to *Rong et al.* ("*Rong*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Patent No. 6,735,178 B1 to *Srivastava et al.* ("*Srivastava*").

As to claim 4, *Rong* and *Li* does not expressly disclose the base station apparatus according to claim 1, wherein the selection section performs selection in accordance with the channel quality of the data channel after performing selection in accordance with the channel quality of the control channel.

Srivastava discloses in fig. 2, col. 3, lines 14-20, measuring quality to destinations, and collecting latency information. After that, discarding bad links from consideration, and from the remaining links, calculating quality of throughput and

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selecting destination with highest quality throughput, i.e. selecting based on quality of one link factor first then, then selecting a destination based on quality of a different link factor from the remaining pool of destinations.

Rong, Li and *Srivastava* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate selection method as disclosed by *Srivastava* into the invention of *Rong* and *Li*. The suggestion/motivation would have been to maximize data throughput of a multiple radio system (*Srivastava*, col. 1, lines 6-9).

9. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2004/0252670 A1 to *Rong et al.* ("*Rong*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2004/0162073 A1 to *Yoneyama et al.* ("*Yoneyama*").

As to claim 5, *Rong and Li* do not expressly disclose the base station apparatus according to claim 1, wherein the base station accommodates communications with a plurality of mobile stations and a plurality of corresponding control channels, and

the selection section selects the mobile station to which the data channel is assigned, in accordance with the channel quality of the control channel corresponding to the selected mobile station, wherein the control channel is a downlink individual channel.

Yoneyama discloses a mobile station selects one of a plurality of base stations with corresponding control channels based on the electric field strength of the control

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channels, i.e. and each control channel is a downlink individual channel as data transmitted from it is "downlink" and each control channel corresponds to one base station (abstract, para. 0002, 0018)—i.e. in this case the claimed base station is taken to be the "mobile station" and the claimed mobile stations are taken to be the "base stations" as the names of the nodes are not the concern rather the functionality performed by them.

Rong, Li and *Yoneyama* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate selection method as disclosed by *Yoneyama* into the invention of *Rong* and *Li*. The suggestion/motivation would have been to provide a mobile station that is surely assigned a traffic channel having an electric field strength at which transmission errors will rarely occur, and a base station for the mobile station (*Yoneyama*, para. 0017).

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2004/0252670 A1 to *Rong et al.* ("*Rong*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2002/0126645 A1 to *Ryu*.

As to claim 7, *Rong and Li* discloses the base station apparatus according to claim 1, wherein the selection section performs selection in accordance with both the channel quality of the control channel and the channel quality of the data channel only if the mobile station is within an area covered by the base station (*Rong*, fig. 1).

Rong and Li does not expressly disclose the mobile station has a distance from the base station greater than or equal to a predetermined value.

Ryu discloses if the distance value received by the mobile station 100 is within the range presented by the base station A 106, the mobile station 100 can receive the broadcasting (fig. 10, para. 0053), i.e. value within range (min<value<max is a range where the value is greater than the minimum value in the range).

Rong, Li and *Ryu* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the distance value as disclosed by *Ryu* into the invention of *Rong and Li*. The suggestion/motivation would have been so that the mobile station can receive broadcasting if the value is within a range (*Ryu*, fig. 10, para. 0053).

11. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over by U.S. Patent No. 6,496,531 B1 to *Kamel et al.* ("*Kamel*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*").

As to **claim 8**, *Kamel* discloses a mobile station apparatus comprising:

a first measuring section that measures a channel quality of a control channel for receiving control information (fig. 5, col. 15, lines 25-37, obtaining a control measurement);

a second measuring section that independently measures a channel quality of the data channel (fig. 5, col. 15, lines 25-37, obtaining a data measurement);

a generation section that generates channel quality information from the channel quality of the data channel (fig. 5, col. 15, lines 25-37, generating power control commands);

and a determination section that determines whether or not the channel quality information is to be transmitted, in accordance with the channel quality of the control channel (fig. 5, col. 15, lines 25-37, transmitting power control commands to power up or power down, based on comparison to control target).

Kamel does not expressly disclose, control information *including assignment information of a data channel or modulation and coding scheme (MCS) information*.

Li discloses control information includes a modulation scheme and recipient terminal for each HS-PDSCH (i.e. data channel) (para. 0039).

Kamel and *Li* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the control information as disclosed by *Li* into the invention of *Kamel*. The suggestion/motivation would have been to perform data demodulation in CDMA (*Li*, para. 0002).

12. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,496,531 B1 to *Kamel et al.* ("*Kamel*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2003/0073409 A1 to *Nobukiyo et al.* ("*Nobukiyo*").

As to claim 9, *Kamel and Li* further discloses the mobile station apparatus according to claim 8, wherein the determination section determines that the channel quality information is to be transmitted when the channel quality of the control channel is compared to a threshold value (*Kamel*, col. 15, lines 25-37, comparing with data and control targets, then transmitting power up and power down commands)

Kamel and Li do not expressly disclose wherein the determination section determines that the channel quality information is to be transmitted when the channel quality of the control channel is greater than or equal to a threshold value, and determines that the channel quality information is not to be transmitted when the channel quality of the control channel is less than the threshold value.

Nobukiyo discloses a mobile communication system in which the quality information is reported when the reception quality of the mobile station is greater than or equal to the threshold value (para. 0155).

Kamel, Li and *Nobukiyo* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the threshold value and quality reporting as disclosed by *Nobukiyo* into the invention of *Kamel and Li*. The suggestion/motivation would have been to extend battery life and improve high speed packet transmission service with low error ratio (*Nobukiyo*, para. 0154-0155).

13. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,496,531 B1 to *Kamel et al.* ("*Kamel*") in view of U.S. Publication No.

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2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Patent No. 5,991,285 to *Ghosh*.

As to claim 10, *Kamel and Li* do not expressly disclose the mobile station apparatus according to claim 8, wherein the first measuring section measures the channel quality using a reception signal-to-interference ratio (SIR) of the control channel.

Ghosh discloses a mobile station measures a signal-to-interference ratio of a code-demultiplexed control channel (col. 1, lines 20-34).

Kamel, Li and *Ghosh* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the measurement as disclosed by *Ghosh* into the invention of *Kamel and Li*. The suggestion/motivation would have been to produce a power control data bit for the base station to adjust a power level (*Ghosh*, col. 1, lines 20-34).

14. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,496,531 B1 to *Kamel et al.* ("*Kamel*") in view of U.S. Publication No. 2005/0083998 A1 to *Li et al.* ("*Li*") and in further view of U.S. Publication No. 2005/0037766 A1 to *Hans et al.* ("*Hans*").

As to claim 11, *Kamel and Li* does not expressly disclose the mobile station apparatus according to claim 8, wherein the first measuring section measures the channel quality using required transmission power of the control channel.

Hans discloses channel measurement arrangement 10 selects the transmission channel that has the minimum transmission power and causes channel assignment arrangement 20 to subsequently use this transmission channel for first connection 41 instead of the corresponding transmission channel measured by connection quality arrangement 40, which has too low a connection quality (para. 0025), i.e. channel power (control of Kamel) measured for quality purposes, selecting the channel with minimum transmission power.

Kamel, Li and *Hans* are analogous art because they are from the same field of endeavor regarding data communications.

At the time of invention, it would have been obvious to a person of ordinary skill in the art to incorporate the transmission power measurements as disclosed by *Hans* into the invention of *Kamel* and *Li*. The suggestion/motivation would have been to select a channel to use based on quality (*Hans*, para. 0025).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMAR GHOWRWAL whose telephone number is (571)270-5691. The examiner can normally be reached on M-Th 10a.m.-8:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick Ferris can be reached on (571)272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. G./

Examiner, Art Unit 2463

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/Derrick W Ferris/

Supervisory Patent Examiner, Art Unit 2463